Claims

[1]   1. A video processing method comprising:

determining a position of an area-of-interest which a user gazes at in a current image being displayed, by using gaze detection;

selecting a base layer bitstream and enhancement bitstream of a video object containing the area-of-interest in an input bitstream; and

scalably decoding the base layer bitstream and the enhancement layer bitstream of the video object.

[2]   2. The method of claim 1, wherein the input bitstream is a scalable bitstream in which each of a plurality of video objects is scalably coded.

[3]   3. The method of claim 1, wherein the gaze detection is to determine the position of the area-of-interest by estimating motion of a head or eyes of the user.

[4]   4. The method of claim 2, wherein the input bitstream includes positional information of the plurality of video objects included in each image, and in selecting the bitstreams, the positional information of the area-of-interest is compared with the positional information of the plurality of video objects included in the input bitstream, and the base layer bitstream and enhancement layer bitstream of the video object containing the area-of-interest are selected.

[5]   5. The method of claim 2, further comprising:

selecting the enhancement layer bitstream of the remaining video objects except the video object containing the area-of-interest in the input bitstream; and

discarding the selected enhancement layer bitstream of the remaining video objects not to be decoded.

[6]   6. The method of claim 1, wherein the video object is one frame when the input image is a multiframe image, and is a video content when one frame image is divided into a plurality of video contents.

[7]   7. A video data processing apparatus comprising:

a scalable decoder which scalably decodes an input bitstream;

an area-of-interest determination unit which by using gaze detection, determines a position of an area-of-interest which a user gazes at in a current image being displayed and outputs the positional information of the area-of-interest; and

a control unit which according to the positional information received from the area-of-interest determination unit, selects a base layer bitstream and en-hancement bitstream of a video object containing the area-of-interest in an input

bitstream and controls the scalable decoder such that the scalable decoder scalably decodes the selected base layer bitstream and the enhancement layer bitstream.

[8]   8. The apparatus of claim 7, wherein the input bitstream is a scalable bitstream in which each of a plurality of video objects is scalably coded.

[9]   9. The apparatus of claim 7, wherein the gaze detection is to determine the position of the area-of-interest by estimating motion of a head or eyes of the user.

[10]   10. The apparatus of claim 8, wherein the input bitstream includes positional information of the plurality of video objects included in each image, and the control unit compares the positional information of the area-of-interest with the positional information of the plurality of video objects included in the input bitstream, and selects the base layer bitstream and enhancement layer bitstream of the video object containing the area-of-interest are selected.

[11]   11. The apparatus of claim 8, wherein the control unit selects the enhancement layer bitstream of the remaining video objects except the video object containing the area-of-interest in the input bitstream and controls the scalable decoder such that the scalable decoder does not decode the selected enhancement layer bitstream of the remaining video objects.

[12]   12. The apparatus of claim 7, wherein the video object is one frame when the input image is a multiframe image, and is a video content when one frame image is divided into a plurality of video contents.

[13]   13. A video processing method comprising:
        decoding a previous bitstream received from a source apparatus and displaying the bitstream;
        by using gaze detection, determining the position of an area-of-interest which a user gazes at in the image being displayed;
        transmitting the positional information of the area-of-interest to the source apparatus;
        receiving from the source apparatus, a current bitstream including a base layer bitstream and enhancement bitstream of a video object containing the area-of-interest; and
        scalably decoding the current bitstream.

[14]   14. The method of claim 13, wherein the current bitstream is a bitstream in which only the video object containing the area-of-interest is scalably coded

among a plurality of video object included in one image.

[15]   15. The method of claim 13, wherein the gaze detection is to determine the position of the area-of-interest by estimating motion of a head or eyes of the user.

[16]   16. The method of claim 13, wherein the video object is one frame when the input image is a multiframe image, and is a video content when one frame image is divided into a plurality of video contents.

[17]   17. A video data processing apparatus comprising:
a scalable decoder which scalably decodes an input bitstream;
an area-of-interest determination unit which by using gaze detection, determines the position of an area-of-interest which a user gazes at in an image that is received from a source apparatus, decoded, and then displayed to a user, and outputs the positional information of the area-of-interest; and
a data communication unit which transmits the positional information of the area-of-interest to the source apparatus, wherein the scalable decoder decodes a current bitstream which is received from the source apparatus and includes base layer bitstream and enhancement bitstream of a video object containing the area-of-interest.

[18]   18. The apparatus of claim 17, wherein the current bitstream is a bitstream in which only the video object containing the area-of-interest is scalably coded among a plurality of video object included in one image.

[19]   19. The apparatus of claim 17, wherein the gaze detection is to determine the position of the area-of-interest by estimating motion of a head or eyes of the user.

[20]   20. The apparatus of claim 17, wherein the video object is one frame when the input image is a multiframe image, and is a video content when one frame image is divided into a plurality of video contents.

[21]   21. A computer readable recording medium having embodied thereon a computer program for video data processing method, where in the video processing method comprises:
determining a position of an area-of-interest which a user gazes at in a current image being displayed, by using gaze detection;
selecting a base layer bitstream and enhancement bitstream of a video object containing the area-of-interest in an input bitstream; and
scalably decoding the base layer bitstream and the enhancement layer bitstream

of the video object.

[22]   22. A computer readable recording medium having embodied thereon a
computer program for video data processing method, where in the video
processing method comprises:

decoding a previous bitstream received from a source apparatus and displaying
the bitstream;

by using gaze detection, determining the position of an area-of-interest which a
user gazes at in the image being displayed;

transmitting the positional information of the area-of-interest to the source
apparatus;

receiving from the source apparatus, a current bitstream including base layer
bitstream and enhancement bitstream of a video object containing the area-
of-interest; and

scalably decoding the current bitstream.